

5. On some Persian, Himalayan, and other Reptiles.

By J. ANDERSON, M.D.

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CYCLEMYS OLDHAMI, Gray.

I have received a living specimen of this species and a perfect shell from Samagooting in the Naga Hills in Assam, to the east of the Brahmaputra. The first measures $8\frac{1}{2}$ inches in length, and the second is 9 inches long.

In both specimens the pectoro-abdominal sternal suture is unanchylosed, conferring, in the living example, distinct mobility on the lobes of the sternum, but of a more limited character than in *Cuora*. In the dried shell the mobility between the pectoral and abdominal plates is at once demonstrated when the sternum is moistened in water, while before doing so there is but little evident motion.

In the living specimen the portion of the abdominal plates overlapping the line of the pectoro-abdominal joint has become more or less fractured, so to speak, evidently by the motion of the two halves of the sternum on each other; and in the other specimen (the shell) the fracturing is complete, and the suture or joint is carried through the plates from side to side. Anterior to the outer third of the suture on each side is the separated portion of the abdominal plates, broken up in an area, which Theobald has compared to a curious fossa. Behind the middle third of the joint is a separated piece of each pectoral. The more perfectly fractured character of the portions of the abdominal plates that overlap the suture in the larger, as compared with their imperfect fracturing in the smaller specimen, would seem to favour Theobald's observation that the suture of the lobes of the sternum becomes more developed with age. If Dr. Gray*, who combats this observation of Theobald's on the ground that it is opposed to the experience of most zoologists and the specimens in museums, had been familiar with the animal in life, or had examined the moistened sternum of a museum specimen, it is questionable whether he would have committed himself to dispute the correctness of the observations of a zoologist who spoke from personal knowledge of the living animal, and who did not confine himself to a crude knowledge gained from museum specimens. In connexion with Theobald's observation it is curious to remark that Dr. Gray did not observe any mark of the transverse suture on the sternum in a specimen which he doubtfully regarded as a younger stage of *C. ovata*, as compared with another example of the same species, which he regarded as more aged than the former, on which the cross suture of the sternum was much eroded on the edge, doubtless in the same way as I have described in the present species; so that Dr. Gray's own facts substantiate Theobald's conclusion which he disputes.

* Suppl. Cat. Shield Rept. B. M. 1870, p. 23.

The colour of the body of this species is pale yellowish, the limbs, tail, head, and neck being brownish, with a tinge of olive, the head being unspotted.

CUORA AMBOINENSIS, Daud.

I have received a male of this species from Samagooting in the Naga Hills, Assam, measuring 7" 8" in length.

VARANIDÆ.

HYDROSAURUS SALVATOR, Linn.

This fine Lizard is not uncommon in Assam.

LACERTIDÆ.

LACERTA STRIGATA, Eichw.

Scales oblong, granular, placed obliquely but keeled longitudinally. Ventral plates in six rows, the two central lines of scales each about half the size of the one external to it. Small scales along the external margin of the outer row, which has twenty-five scales from the axilla to the groin. Preanal plate large, semicircular, its hinder margin slightly convex; surrounded by two rows of small scales and a rudimentary third. Nineteen to twenty-two femoral pores. Verticils of tail regular, of moderate length and breadth, strongly keeled. Nostril in the lower hinder angle of the nasal, with the suture of the rostral and first labial touching the middle of its lower margin; two small shields behind it of nearly equal size, the lowest one triangular, with its apex directed downwards and backwards, the shield above it pentagonal. Frontal of moderate size, hexagonal. Postfrontals each about the same size as the frontal, heptagonal, forming a moderately broad suture with each other, but a very narrow one with the anterior loreal and parietal. Vertical broader anteriorly than posteriorly, rounded in front, obscurely pointed; lateral margins concave; posterior margins oblique, straight, or slightly concave. Parietals larger than the postfrontals, triangular, with the lateral margins convex. Postparietals smaller than parietals, pentagonal, forming a very small suture with the vertical, and one of nearly equal breadth with the parietals and preoccipitals. One or two small shields behind the postparietals, one before the other. Preoccipitals as large as the postfrontals, pentagonal, forming a broad suture with each other, the postparietals and exoccipitals and sutures of nearly equal width with the vertical and occipital, which are partially wedged in between them. Occipital rather smaller than the parietal, its anterior margin meeting at an obtuse angle, lateral margins convergent, posterior end truncated. A small truncated conical postoccipital. Exoccipitals larger than any of the other head-plates, hexagonal, external posterior angle rounded. Two temporals equalling the length of the exoccipitals, and forming a suture with them externally, the foremost one being longest and largest. An elongated supraural placed obliquely

across the ear below the hindermost temporal. An area of moderately large and small scales between the temporals and upper labials. Two loreals, the posterior one the larger. Seven upper labials, the one below the eye much larger than the others. Seven lower labials. Ear vertically oval. Four pairs of large shields behind the mental, increasing in size from before backwards, the posterior pair about four times the size of the anterior one. The fold, from ear to ear, not prominent. The anterior margin of the neck-fold with ten large scales from side to side.

Dark greenish olive-brown above, with five fine bluish-green narrow longitudinal lines from the head to the base of the tail—one from the ear along the side, another from above the ear over the former, and the third from the postoccipital along the middle of the back: the area between these spotted with blackish. Under surface rich green, yellowish about the anal region.

Snout to vent $2\frac{4}{12}$ " ; vent to top of tail $4\frac{9}{12}$ " ; anterior extremity $\frac{9}{12}$ " , posterior extremity $1\frac{4}{12}$ " ; fourth toe $\frac{11}{24}$ " ; snout to postoccipital (hinder margin) $\frac{13}{24}$ " .

Hab. Shiraz, Persia. Two specimens.

Duméril and Bibron regard this species as a variety of *L. viridis* ; and in this they are followed by Prof. Filippi, who records it from Tiflis and Senkoran.

EREMIAS CÆRULEO-OCELLATA, D. & Bib. Erpét. Générale, vol. v. pp. 295, 296.

Head much pointed ; tail not enlarged at the base, long and slender. Frontal obliquely quadrangular, with an angle in the middle line before and behind, entire or longitudinally divided in two, in contact with two of the nasals, anterior loreal, and the postfrontals. Postfrontals hexagonal, forming a small suture together. Vertical hastate, lateral margins concave, convergent. Preoccipitals triangular, with the small wedge-like occipital indenting their line of union posteriorly. Exoccipitals large, subquadrangular, narrower before than behind. A line of six small linear granuloid scales along their external margin. Temporal region granular. Two large supraciliaries, together forming an oval surface. Two or four small scales before them, with two rows of small granules along their external border. Anterior loreal small, quadrangular ; posterior large, subquadrangular. Five linear scales along the ridge of the eye, the anterior one very much longer than the others. Two small scales above and behind the posterior angle of the eye. Ten to eleven upper labials, exclusive of the inferior orbital plate, which has two small rounded scales behind it ; seven to eight lower labials ; five pairs of large plates below them, the first and last pairs the smallest. A fold across the throat from ear to ear. The prevertical fold with three rather large scales in its middle. Dorsal scales minute, smooth, ovals rhomboidal, arranged more or less in transverse rows, with a minute granule between each scale posteriorly. Scales of tail oblong, arranged in verticils. Scales on front of thighs and under surface of tibial portion of leg very large, hexagonal. Either

two moderately-sized preanal plates surrounded by smaller ones, or all the plates of one size and not enlarged. Femoral pores thirteen or fourteen. Ventrals square, smooth, arranged in transverse rows of fourteen to eighteen scales.

Yellowish olive-brown above, with a series of yellowish or bluish spots, with black margins along each side of the body, spotted with black on the sides of the head, neck, and body, and on the dorsal surface. Under surface yellowish white. Tail uniform dark olive-green above and below in its two posterior thirds.

Tip of snout to vent $2\frac{4}{12}''$; vent to tip of tail $3\frac{6}{12}''$; snout to occiput $\frac{7}{12}''$; anterior limb $\frac{1.0}{12}''$; posterior limb $1\frac{1}{12}''$; fourth toe from base of fifth $\frac{7}{12}''$.

Hab. Yarkand.

I have followed Duméril and Bibron in regarding this as distinct from Pallas's *Lacerta velox* and Eichwald's *L. argulus*, for the reasons stated by the former authors. The specimens before me, although they were obtained in Yarkand, agree in every particular with the description of the types which came from the Crimea. Filippi records *E. variabilis*, Fitz., as a common species throughout Persia.

OPHIOPS ELEGANS, Ménétriés.

Frontal quadrangular, its anterior margins slightly convex or straight, meeting at an obtuse angle with the two upper shields of the rostral, which separate it from the rostral. Postfrontals either transversely triangular, with the base directed outwards, or more or less pentagonal; in the former case they may or may not form a suture behind the rostral, while in the latter instance they invariably meet in the middle line, and the suture is usually broad. Vertical moderately elongate, rounded and rather pointed anteriorly, its margins meeting at an obtuse angle; lateral margins concave, convergent; posterior extremity either slightly pointed or transversely truncated. Preoccipitals small, pentagonal, forming a broad suture together with a small lozenge-shaped occipital behind them, with a tumid disk in its centre. A small triangular postoccipital. Two large pentagonal exoccipitals with two linear temporals along the outer margins, the posterior one the smallest; temporal region below them granular. Three supraciliaries, the anterior one very small, two posterior ones very large, together forming an oval, with a flattened external margin, along which there is a longitudinal row of fine granules. Two or three small almost granular plates behind the posterior one. Two loreals, one before the other, and contributing to form the "canthus rostralis;" the anterior one small. Eight upper labials, the fifth forming the lower support to the eye, with three small labials behind it; one small shield above the last, separating it from the supraaural plate, which is either oval or oblong. Eight lower labials with six large shields below, three on each side, the fourth pair from the mental the largest. The throat in some (twelve) specimens shows a distinct fold from ear to ear, while it cannot be detected in others. Scales from occiput to

nearly in a line with the axilla almost granular and small-keeled. Those on the remainder of the body rhomboidal, strongly keeled, imbricate, with their tips directed backwards and upwards. The scales on the middle line of the back larger than the others, and the scales generally on the lumbar and mesial regions larger than any of the rest, and very strongly keeled. Scales on tail arranged in verticils, very strongly keeled above; those on the anterior fifth of the under surface smooth, on the remaining four fifths keeled. Eight rows of ventral scales, with a lateral line of small scales intermediate between them and the dorsal scales. The two rows in the middle of the belly are smaller than the row on either side of them. A large transversely elongated preanal shield, with a smaller one before it, surrounded by some still smaller shields.

Colour olive, brownish- or even reddish-bronze above, with two whitish longitudinal lines along each side, the lower one proceeding from the snout along the lower margin of the eye over the shoulder to the groin; the other and higher, through the "canthus rostralis," over the eye and along the side of the back. Below the former, the sides of mouth (labials), neck, and sides of body are spotted with blackish. The area between these two white lines is either reddish brown, or reddish and black-spotted; and there is a band of black spots along their upper margins. A short narrow dark-brown line from the occiput on to the neck. A few black spots on the side of base of tail. Limbs dark brown or black-spotted above, most markedly on the hinder limbs. Under surface yellowish.

Snout to vent $2''$; vent to tip of tail $3\frac{9}{12}''$; snout to occiput $\frac{11}{1}''$; anterior extremity $\frac{8}{4}''$; posterior limb $1\frac{3}{2}''$; fourth toe from base of fifth $\frac{7}{12}''$.

Hab. Shiraz, Persia.

This species is evidently very variable, both in colouring and in some of the details, chiefly affecting its posterior frontals, which are sometimes quite separate from each other, while in other examples they are contiguous, and form a broad suture. The specimen figured by Duméril and Bibron shows the latter peculiarity. It is evidently, from its peculiar coloration, a form inhabiting a dry country; and it is probably an inhabitant of arid hill-sides, where its colour will hardly be distinguishable from the soil. Ménétriés's specimens were from Bahun; it has also been obtained at Smyrna, and Eichwald includes it in his fauna.

Four species of this genus have been recognized in India:—*O. jerdoni*, Blyth; *O. theobaldi*, Jerdon; *O. beddomii*, Jerdon; *O. microlepis*, Blanford.

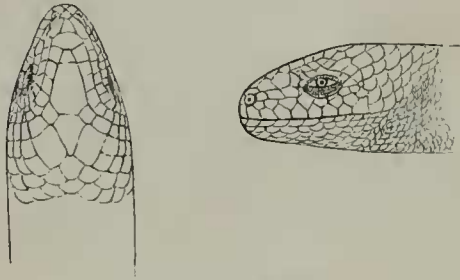
EUMECES LADACENSIS, Gthr. Rept. of Brit. Ind. p. 88.

This species has a transparent eyelid, no supranasals, four supra-ciliary shields, thirty-eight rows of scales round the body, and fifty-six to fifty-eight transverse series between the fore and hind limbs. The opening of the ear is denticulated, and the subcaudals are broad, and there are two enlarged preanal scales. Günther states that

the fore limb, when laid forward, reaches to the snout; but in the specimen before me it reaches only to the anterior angle of the eye. The tail of my individual is forked at its middle, the two prongs being of nearly equal length, the longest measuring $1\frac{4}{12}$ " , and the undivided portion of the tail $\frac{9}{12}$ " , total length of the organ being $2\frac{1}{12}$ " . The body is $11\frac{1}{12}$ " long, the head $\frac{5}{12}$ " , the fore limb $\frac{8}{12}$ " , and the posterior limb $\frac{10}{12}$ " in length.

Hab. Ladak.

Fig. 1.



Anguis orientalis.

ANGUIS ORIENTALIS, n. sp. (Fig. 1.)

Rostral triangular. Two supranasals on each side enclosing an azygos quadrangular shield in contact with the rostral in front, and the internasal and postfrontals behind. Internasal triangular, pointed in front, with the fronto-nasals on each side of it. Fronto-nasal pentagonal or elongately oval and pointed at each end, lying between the posterior supranasal, internasal, and frontal, in contact behind with two shields, one of the side of the head, and one of a longitudinal line of eight small shields between the supraciliaries and the eye. Frontal rather large, triangular, broadly truncated in front, with a wavy posterior margin. Three postfrontals in a transverse row, more or less quadrangular. Six rather large supraciliaries; two small scales behind the eye. Vertical very large, broader in front than behind, lateral margins divergent, and then passing inwards at an obtuse angle to the posterior margin, which is transversely truncated. Two pairs of quadrangular parietals behind the supraciliaries, the external shield the largest, the inner one touching by its internal margins the vertical and parietal. The latter is a long wedge-like pentagonal shield truncated anteriorly, but with its lateral margins convergent to a point behind. A pair of large oblong obliquely placed exoccipitals, with a triangular posteriorly pointed small shield between their posterior margins. Two rows of temporals, three on either side, but each external to the parietals and exoccipitals. A single row of small shields from the fourth lower labial round anteriorly to the corresponding labial of the opposite side. Two rows of small shields from and below the fourth to the last lower labial. A large azygos chin-shield behind the infralabial line of scales, with four large pairs posterior to it,

the shields of the first pair forming a broad suture, the others separated by a number of small scales. Thirty rows of scales around the body, one inch behind the head. Two longitudinal rows of hexagonal scales, with their long diameter set nearly transversely to the body; the rows immediately external to them and on the sides slightly smaller and rhomboidal, and distributed in oblique rows. Ventral scales hexagonal, larger than those on the vertebral line. Vent with four pairs of anal plates, the central pair the largest. The tail contracts rather suddenly a little beyond its middle; and the remaining portion is slight, turned up, and covered above and on its sides with large brown scales. Scales on under surface of tail larger than on ventral surface of body, with rounded rather pointed margins.

Brown above, a dark brown band along the vertebral line of scales, and another one of the same hue along the fourth line of scales external to the former, the four longitudinal lines below shaded with dark brown, which fades away on the sides. General hue of under surface and lower half of sides olive-yellowish. The scales of the side and under surface have each a dark brown centre, with a broad brownish-yellowish or greenish-yellowish margin; and the predominance of the two last-mentioned colours on the sides and under surface determines the general tints of these parts, the dark centres, however, of the scales being quite distinct.

Length: snout to vent $4\frac{9}{12}$ " , vent to tip of $\frac{9}{12}$ " , snout to occiput $\frac{9}{12}$ " .

Hab. Rehst, on the Caspian Sea.

This species is distinguished from the *A. fragilis*, Linn., by the greater number of shields on its head and scales round its body.

SEPIDÆ.

GONGYLUS OCELLATUS, Wagler.

Head much pointed; rostral rounded in front, concave posteriorly. Two supranasals, separated by a minute prefrontal. Post-nasal pentagonal, in contact with the first and second labials. Two large loreals, the anterior one about thrice as large as the posterior shield, behind which there are three scale-like preoculars, one behind the smallest loreal, and two in a line above it. Frontal large and broad, in contact with the prefrontal, supranasal, vertical, anterior loreal, and anterior supraocular, which rests on the two uppermost preoculars. Vertical large and elongate, exceeding the distance between its anterior extremity and the tip of the rostral. A small azygos shield wedged into its posterior extremity. One pair of occipitals about the same size as the vertical. Mental not quite so large as the shield behind it. Eyelid with a longitudinally elongate transparent disk. Ear round, of moderate size, not denticulated. Scales in thirty-two rows round the body.

Upper surface (in spirits) of body and tail brown, every alternate line of scales marked by a transverse black band, with a longitudinally elongated bluish-white spot in the centre of each scale.

The bands are lost on the head, where their place is taken by black spots with whitish centres. Some of the bands run into each other, so that the transverse arrangement is not perfect. Labials with black margins, and sides of neck and body black, reticulately spotted on a yellow ground.

Under surface immaculate.

Hab. Bushire, Persia.

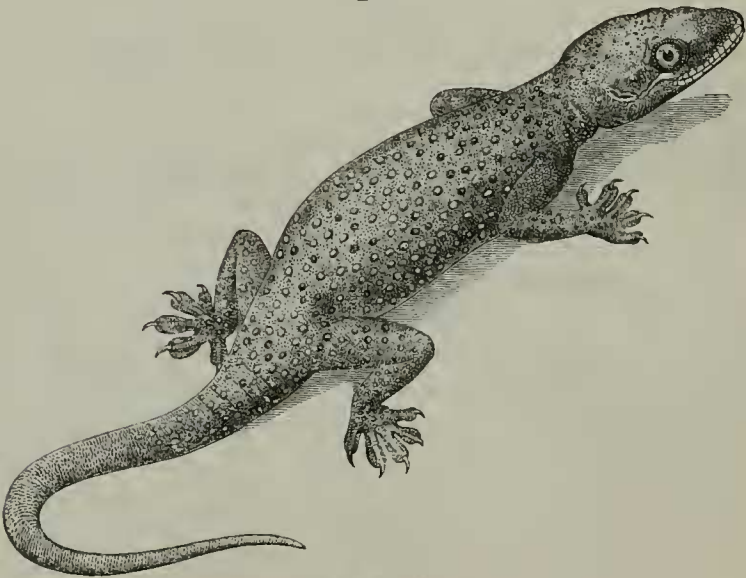
This Lizard has been figured no less than three times—first by its discoverer, Olivier, afterwards by Geoffroy, and lastly by Gervais in the 'Dictionnaire Universelle d'Histoire Naturelle;' and it is doubtful whether Geoffroy's figure excels the first, which certainly the last-mentioned does not.

GECKOTIDÆ.

HEMIDACTYLUS PERSICUS, n. sp. (Fig. 2.)

Back covered with numerous white, rather large, trihedral tubercles, with blackish-brown ones intermixed; nearly all the tubercles about half the size of the opening of the ear, which is longitudinally crescentic, the concavity being directed forwards. There are no tu-

Fig. 2.



Hemidactylus persicus.

bercles on the side of the neck; and those on the nape are less than half the size of those on the loins, where they have a tendency, as in the body generally, to be arranged in longitudinal rows, fourteen such lines occurring before the loins; all the tubercles are minutely striated in a radiate manner from their heads. A patch of large rounded granules between the nostril and eye, and another behind the nostril. The ventral scales are small, and forty-five to fifty rows

occur in the middle of the belly; those on the throat are very minute. Ten upper, and eight lower labials. A pair of large chin-shields behind the azygos lower labial, and forming a pretty broad suture behind the latter, succeeded by another pair, the shields of which are widely apart, their anterior extremities only touching the first pair of labials. Two or three lines of largish scales below the remaining lower labials. Tail with regular transverse rows on its upper surface of rather pointed trihedral tubercles, seven in each row. A small preanal region of enlarged scales in the female.

Colour pale yellowish brown, with six faint brownish transverse narrow dorsal bands, the tubercles in these areas being almost black; a darkish brown streak from the nostrils through the eye, above the ear, with a whitish line above it. Lips whitish.

From snout to vent $2\frac{5}{8}$ ". Tail imperfect.

Hab. Persia.

This species appears to be closely allied to *H. trihedrus*, from which it may be distinguished, however, by its smaller ventral scales and tubercles, and by its peculiar coloration.

PENTADACTYLUS KHASIENSIS, Jerdon; Proc. As. Soc. Bengal, 1870, p. 75.

Gymnodactylus khasiensis, Anders. Proc. Zool. Soc. 1871, p. 162.

I have received seventeen specimens of this species from Cherra Punji in excellent condition. The former examples, which made me first acquainted with the species, had become hardened by too strong spirit, and had the close hood so contracted that they had the facies of a *Gymnodactylus*. The recent specimens, however, clearly show that Dr. Jerdon was quite correct in referring them to *Pentadactylus*. The largest specimen measures from the snout to the vent $3'' 2'''$, vent to tip of tail $3'' 8'''$. It appears to be a common species at Cherra Punji.

EUBLEPHARIS MACULARIUS, Blyth, Journ. As. Soc. Beng. vol. xxiii. pp. 737, 738.

Eublepharis macularius, Theobald, Cat. Rept. As. Soc. Mus. 1868, p. 32; Jerdon, Proc. As. Soc. 1870, p. 75; H. T. Blanford, Journ. As. Soc. vol. xxxix. p. 338.

Body covered with moderate-sized, conical, backwardly pointed tubercles, separated from each other by numerous small flat rounded granules, an arrangement that prevails all over the body as far forwards as on a line with the posterior angles of the eye; before this, the granules narrow in size; and anterior to the front angle of the eye the upper surface of the snout is covered with pointed tubercles, smaller than those of the rest of the body and arranged in a tessellated manner. Nostril oval, in a single plate over the first labial, with a large shield at its anterior superior margin between its plate and the rostral. Ear large and crescentic, the straight anterior margin with a few pointed tubercles. Tubercles on the loins and thighs larger than on the rest of the body. Three shields of different sizes be-

hind the rostral; ten upper and thirteen lower labials. Belly covered with slightly imbricate rhombic scales, increasing in size from before backwards. Tail thick, conical, and verticillated, covered below with quadrangular, rhombic, or almost rounded, slightly imbricate, moderate-sized scales; the upper surface with smaller granular scales, with a median lateral row of rounded or pointed enlarged tubercles. The verticils are defined below by a transverse line of fine granules. Preanal pores in an angular line of thirteen. Eighty-six small cylindrical conically pointed teeth in the upper jaw, and eighty in the lower jaw.

Olive-brown above, covered with numerous deep-black spots, most frequent about the occiput and nape. A black spot from the nostril to the eye. Under surface yellowish.

Length: snout to vent 4" 10"', vent to tip of tail 3" 3"', head 1" 2"', fore limb 4" 6"', hind limb 2".

Hab. Salt range, Punjab; and Amritzur.

This species is closely allied to *E. hardwickii*, from which it is distinguished by the tubercles being separated from each other by flat rounded granules instead of smaller tubercles, and by the arrangement of the tubercles on the head, which in *E. hardwickii* present a tessellated appearance all over the head from snout to occiput; while in *E. macularius* the tubercles are arranged on the head as on the body, as far forwards as the posterior angle of the eye, and anterior to that they gradually assume the paved arrangement. The coloration, too, of these species is markedly distinct; and *E. macularius* is essentially a north-western species, while *E. hardwickii* is confined (so far as is known) to the eastern side of India.

Blyth's type, now before me, is a half-grown individual, and is so bleached that it shows no trace of colouring beyond a uniform whitish hue. His description of the species is almost exclusively directed to the colouring and to a speculation as to the probable colour of the young. He mentions that Mr. Theobald informed him that the species attains to more than double the size ($3\frac{1}{8}$ inches) of the specimen from which he drew up his notes, and that it is remarkable, when alive, for the beauty of its prevailing rosy caraneous hue.

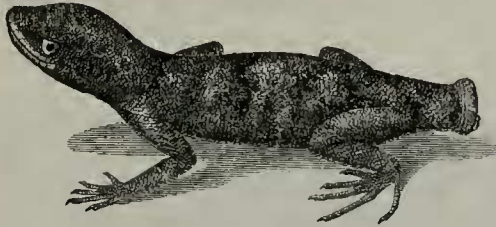
Dr. Jerdon's* *E. fasciatus*, from Hurriana, appears to me to belong to this species; for he describes the tubercles as "larger and finer" than in this species, and less close and narrower than in *E. hardwickii*, which is exactly the character which distinguishes *E. macularius* from the last-mentioned species. The coloration of his single very young and imperfect specimen was exactly that of the young of *E. macularius* as described by Blyth.

Although the difference of colour between the young and adult is very marked, as will be gathered from my description and the account given of the coloration by Blyth and Jerdon (who both describe the young as beautifully banded on the body, with a nuchal and three dorsal white bands), still a careful comparison of

* Proc. As. Soc. Bengal, 1870, p. 75.

my adult with the young type does not reveal any structural character that would entitle me to separate them.

Fig. 3.



Cyrtodactylus yarkandensis.

CYRTODACTYLUS YARKANDENSIS, n. sp. (Fig. 3.)

Upper surface uniformly smoothly granular, some of the granules much larger than the others, especially on the hinder part of the body, none tubercular. Two pointed tubercles on the under surface of the tail at the side of the vent posteriorly; three large tubercles on the side of the tail at the base, the external large and pointed. (Tail absent in both specimens.) Ventral scales small, and those on the throat granular. Nostril over the suture of the first labial and rostral defined in front by the rostral, below by the first labial, and behind and above by a semicircle of two or three shields, the upper one of which is the largest. Ten to twelve upper labials, the first sometimes confluent with the rostral; nine lower labials. Two pairs of chin-shields, the anterior the largest, with the rostral wedged between its plates. (Females, no femoral pores.) Ear small, obliquely oval from above downwards and backwards. Toes moderately long, slender.

Bluish grey, with seven broad blackish waved bands, with a well-marked black posterior margin.

Length: snout to vent 2'', vent to tip of tail — ?, snout to occiput $\frac{6}{1\frac{1}{2}}''$, length of fore limb $\frac{9}{1\frac{1}{2}}''$, of hind limb $\frac{11}{1\frac{1}{2}}''$, fourth toe from base of fifth $\frac{4}{1\frac{1}{2}}''$, fifth toe $\frac{3}{1\frac{1}{2}}''$.

This species is from Yarkand; but I can give no information regarding the elevation at which it was found.

AGAMIDÆ.

CALOTES VERSICOLOR, Daud.

I have received seven fine adults of this species from Nasrick with a much more elevated crest than occurs in specimens found in the eastern side of India. They are all coloured in the same way: viz. the general colour is light, rather olive-yellow, the head and the anterior half of the trunk being suffused with pink, which is most intense on the crest and throat; the hinder half of the body is speckled with blackish, and the upper surface of the tail is marked with broad dark-coloured bars. The specimens are much larger

than any I have met with on this side of India, constituting a well-marked western race.

CALOTES MYSTACEUS, D. & B.

I have received twelve examples of this species from Cherra Punji.

CALOTES MARIA, Gray.

This is not an uncommon species in the Khasya Hills. The body of the largest specimen in the museum from that locality measures from snout to vent 5 inches; the tail is unfortunately broken; but in another individual measuring in body 4·8 inches, the tail is $14\frac{1}{2}$ inches long. The elbow, knee, and heel are marked with white; and a white line runs along the outside of the fourth toe. The back in the largest specimen is ornamented by eleven transverse white bands intermixed with reddish; they extend only a short way on to the sides. They are continued on to the tail, where they ultimately resolve themselves into pairs of whitish spots, distributed at regular intervals.

Hab. Cherra Punji, Khasi Hills.

CALOTES JERDONI, Günther, Proc. Zool. Soc. 1870, p. 779, pl. xlv. fig. A.

I have received three specimens of this handsome species, obtained at Cherra Punji. A male and a female have a pale red band along the back and on to the base of the tail, and two rows of white spots at regular intervals on the sides between the fore and hind limbs. The other specimen is uniformly coloured green.

CHARASIA DORSALIS, Gray.

This species occurs as far east as the Rajmahal Hills; and Blandford has found it sixty miles west of Raipur, and, he believes, also on the Godavery.

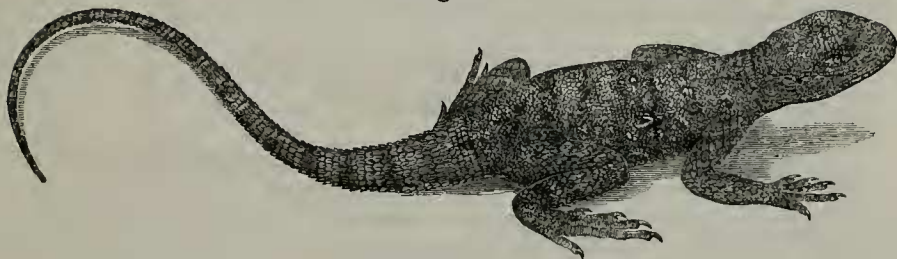
In the young the scales of the under surface are all markedly keeled; but this character is soon all but lost, although traces of it may be detected in adult examples. The cross-rowed character of the scales of the tail is not so marked as on the body, but it can be distinctly detected, although they are imbricate in both localities.

STELLIO PERSICUS, n. sp. (Fig. 4, p. 383.)

The middle line of the back from between the shoulders covered with eight to nine longitudinal rows of very small, rounded, keeled scales of different sizes, those along the vertebral line very small. All the surface external to this, including the sides, very finely granular, with interspersed large granules, chiefly in the axillar region, no scattered spines on the sides. There is a square area on the middle of the sides, covered with enlarged keeled scales of different sizes, arranged more or less in irregularly transverse series. The largest scales are roundly oval, with a rather strong tubercular-like

keel in the centres, whilst the smaller ones, which are the most numerous, are also rounded, but more conical or tubercular than keeled. All the surfaces of the neck very finely tubercular, with numerous little patches of rounded, enlarged, and, in some cases, spiny tubercles, which occur also above and further back than the shoulder.

Fig. 4.

*Stellio persicus.*

Large strongly keeled scales on the upper surface of both limbs. A few large spined scales along the posterior upper margin of the thigh. Toes long and tapering (5'' 5'''), clawed, slightly compressed, with transverse plates on the under surface, with a strong spine on the angle formed by the lateral and anterior margin. Throat more coarsely granular than the neck; the rest of the under surface covered with very small rhomboidal, slightly imbricate, smooth scales, in transverse rows, as many as fifty in a row, across the middle of the belly. No femoral or preanal pores. Tail slightly swollen at the base, surrounded with regular verticils of strongly keeled scales. Head rather broad; snout short and moderately pointed. Loreal region concave. Nostril round, in a triangular nasal below the canthus rostralis, nearer the end of the snout than the eye, and separated from the upper labials by three longitudinal rows of scales. Three scales between the nasal and rostral. A line of large, more or less linear, keeled, tubercular scales from below the anterior angle of the eye, under the eye to over the ear, where they form a group of large tubercular-like plates. Area in front of and below the ear very finely granular, with large spiny shields at the anterior and inferior margins of the ear. Upper surface of the head covered with numerous small shields, a group of prominent ones in the middle of the frontal region, and another and more extended series on the occiput. All the scales and shields on the snout and sides of the head have numerous dark-brown dots on their margins. Upper labials 12, low and long; 13 lower labials, which are higher and shorter than the upper ones. Several rows of small shields parallel to the lower labials. Mental shield with a small azygos shield behind it, and an enlarged shield on each of its sides, and in contact with the front labial, with a line of five to six enlarged scales behind each. Skin of neck loose, thrown into numerous folds; a strong fold from below the ear to the shoulder, and another below it again; small folds on the nape; two transverse folds on the under surface

of the neck, enclosing short longitudinal folds. The prominent portions of these folds bear patches of more or less spiny tubercles.

Olive above, marbled on the sides and back by about eight narrow, transverse, black bands, which scarcely meet in the vertebral line, and enclosing pale whitish round spots. Tail pale yellowish olive above, with narrow dark olive-brown bands that do not extend to the under surface. Throat yellow, finely marbled with narrow reticulate dark-olive lines. Under surface of belly, limbs, and tail yellowish.

Length: snout to vent $1\frac{1}{4}\frac{2}{2}$ "", vent to tip of tail $2\frac{5}{8}\frac{1}{2}$ "", snout to occiput 6"", fore limb 1" 1"", hind limb 1" 8"".

Hab. Teheran, Persia.

A closely allied species to this is the *S. himalayensis*, Steind., from which the present specimen is distinguished by the abrupt separation of its enlarged dorsal scales from the lateral granules, which in *S. himalayensis*, now before me, pass gradually one into the other—and by the presence of the tubercular keeled area on its sides, which does not exist in the allied species. There are other points of difference; but these are among the most prominent, combined with the difference in coloration.

AGAMA AGILIS, Olivier.

I can add nothing to the characteristic description given of this Lizard by Duméril and Bibron, except as far as regards a point in coloration. In the four specimens before me, of all ages, not only the throat but the belly has longitudinal dark lines, which, however, are more indistinct on the latter than on the former. In one adult, the greater part of the throat, and the sides, and under surface of the neck and the sides of the belly are deep purplish black. All have a deep spot of a similar colour on the side of the neck before the shoulder.

Hab. Shiraz.

Length: snout to vent 3" 6"", vent to tip of tail 4" 8"", head 11"", fore limb 1" 11"", hind limb 2" 6"".

This Lizard is recorded by Blyth from the Salt range of the Punjab, but not included by Günther in his 'Reptiles of British India.' Filippi describes a new species, *A. lessonæ*, from Ispahan.

TRAPELUS RUDERATUS, Olivier.

Scales of different sizes, more or less feebly keeled, with numerous large, rather erect, spiny, tubercular scales scattered over the body, either singly or in groups, more numerous in the males than in the females; some of them, instead of being spinose, are only thickened posteriorly; they pass on to the root of the tail, but not beyond it. Tail a little less than twice the length of the body and head, covered with rhomboidal keeled scales, dilated at its base in the male, and tapering. A fold across the neck, another from the lower angle of the jaw, over the shoulder. A central group of large tubercular furrowed shields on the frontal region, surrounded by slightly smaller ones of the same character; a group of similar shields on the occiput,

and enlarged tubercular, almost spiny, scales on the parotoid region, and numerous spiny tubercles on the nape of the neck. On the sides of the neck the ordinary scales are small and almost granular. A group of large, flattened, furrowed shields on the temporal region, extending forwards to the posterior angle of the eye. Ear oval, its upper margin guarded by 3 to 4 dependent spines, with some tubercles on either side of them; 28 to 32 upper labials; 26 to 29 lower shields, excluding the rostral and mental. Ventral scales smooth, but terminating in a very minute but spinose extremity, about 16 oblique rows between the fore limbs. A transverse row of 14 preanal pores, separated from the margin of the cloaca by about a similar number of pores in a broken line of much narrower and more pointed scales, and with another line of 8 larger pores anterior to the former. No pores in the female. No trace of a crest on the back or neck. Limbs rather slender, digits strong, and armed with long sharp claws, the dorsal ridge of which is black, and the sides horn-yellow. The palms, soles, and under surface of fingers and toes are strongly keeled, each scale terminating in an apical spine.

The colour varies considerably, doubtless either due to the animal having the power to change the hues of its skin, or, it may be, depending on sexual causes. An adult gravid female is a rich reddish buff tinged with greenish on the head, especially on the parotoids, with six transverse bands of oblong pink spots, situated in groups of large spiny tubercles. A very obscure greenish-buff line along the vertebral ridge, terminating on the base of the tail in a bright yellow line, which runs along its middle to its posterior third, with a series of large reddish-brown spots along each side of it, becoming fainter posteriorly. A narrow, wavy yellow line along the back of the thigh and along the side of the base of the tail, broadly but interruptedly margined with blackish. Under surface uniform yellow. The male has the same tint as the female, only more yellow; while the other is slightly darker, with an olive hue. In the former, the red spots are the same, but they are separated on the vertebral line by a stripe of elongated bright yellow spots, which is prolonged on to the base of the tail. The yellow line on the back of the thigh is present, but it is crossed by an intensely black spot. In the latter specimen the vertebral spots have the same character and distribution as in the former, but the transverse bands of red spots are darker red; the line on the back of the thigh is very markedly white, with its dark margins very brightly developed. The upper dark margin is continued on to the tibial portion of the leg, which, along with the outside of the foot, is more or less banded with dark olive-brown. The two lateral spots on the side of the base of the tail are reddish or even yellowish, with dark margins. In both the males the axillæ are metallic pink. In one male the whole of the ventral scales, nearly as far forwards as the axilla, are of a darker and duller yellow than the general colour of the underparts, but they are not perceptibly tumid.

Length: snout to vent 2'' 4''', 2'' 2''', 2'' 7'''; vent to tip of tail 3'' 7''', 3'' 10''', 3'' 7'''; head 9''', 7''', 9'''; fore limb 1'' 4''', 1'' 3''', 1'' 5'''; hind limb 1'' 10''', 1'' 9''', 1'' 11''.

Dentition, upper-jaw, m. 13 + 13 = 26, can. 1 + 1 = 2, inc. 2 + 2 = 4.

„ lower-jaw, m. 12 + 12 = 24, can. 1 + 1 = 2, inc. 1 + 1 = 2.

The external incisor on either side of the upper jaw is much larger than the middle pair, but considerably shorter than the canines, with which they can hardly be classed, although Duméril and Bibron speak of four canines and two incisors in the upper jaw.

Hab. Teheran, Persia.

Duméril and Bibron state that the tail of the *Agama mutabilis* is three times the length of the body, which is certainly not the case with the *Trapelus* figured by Olivier, to which the above-mentioned specimens appear to belong.

PHRYNOCEPHALUS OLIVIERI, D. & B.

The five specimens of the peculiar-looking Lizard which I refer to this species, agree with the original description in all its important characters. Duméril and Bibron state, however, "le dessus des membres est recouvert d'écaillés carénées," a character which is not applicable to the limbs of my specimens, inasmuch as only one individual shows a few faintly keeled scales on the tibial portion of its leg. I observe, however, that those specimens which have lost the hard epithelial covering of the scales and become shrivelled have an appearance that might be taken for keeling. It seems probable that Duméril and Bibron's specimens may have been in this condition; for in describing the tail, they state that it is "semée de petites verrues," a description applicable to my specimens which have lost their skin, but not to the perfect ones, which have the base of the tail with a few scattered spiny tubercles. These authors describe the scales of the tail as faintly keeled, a character which the specimens before me have as well.

The number of the labials is very variable; in one I count 30 upper and 30 lower plates, whilst in others the numbers mentioned by Duméril and Bibron, 27 and 26, prevail. The extent of the variation in the upper lip is from 27 to 30, and in the lower from 22 to 30. From an examination of a large series of Lizards, both of this and the Geckoid types, I am convinced that the number of labials is not a reliable specific character, although it may be useful as a generic one in a few instances.

There is another point in connexion with this Lizard worthy of notice, and not referred to by original describers, viz. that there is a rounded eminence on each side of the neck, of larger granules than those surrounding it. It is persistent in all my specimens. Those naturalists have also pointed out that what at first sight might strike an observer as an enlargement and flattening of the root of the tail is a character which depends not so much on the tail itself, but on an enlargement of the body before the vent—which, however, to me appears to swell somewhat behind the vent, and then to contract

rather suddenly to the tail proper, which tapers to a very fine point. The tail in all the specimens is nearly the length of the head longer than the body, and appears from its character to be more or less prehensile, although the Museum collector informs me that he found them on a grassy hill-side.

Snout to vent 1" 10^{'''}; vent to tip of tail 2" 5^{'''}; snout to occiput 6^{'''}; neck (above) 3^{'''}; anterior extremity 1^{'''}; posterior extremity 1" 7^{'''}.

Hab. Shiraz, Persia.

Prof. Filippi (*l. c.*) records that he obtained many examples of this species.

PHRYNOCEPHALUS CAUDIVOLVULUS, Pallas; *Gthr. Rept. of India*, p. 161.

Scales granular on body and tail; those on the lower halves of the limbs slightly larger. Ventral scales scarcely larger than dorsal ones. Nasals separated by an azygos scale and a longitudinal pair on each side of it. Two large scales before the anterior angle of the eye, followed by a row of seven smaller superciliaries. A large rounded scale behind the posterior angle of the orbit, removed from the superciliaries. Three or four large median plates above the nasals, the vertex being occupied by plates larger than those of the supraorbital region, but smaller than those on the occiput. All of those scales or plates are smooth. A rather large plate on the vertex between the posterior angles of the eye, with a tumid centre. Upper labials 27 to 29, the one nearest the corner of the mouth the largest. Lower labials 25. Twelve to thirteen teeth in the upper jaw, the one posterior to the first two incisors elongated like a canine. Twelve teeth in the lower jaw, the one posterior to the incisor of its side canine-like. Ear hidden; a fold below the neck and over the shoulder. No anal or femoral pores. Tail slightly dilated at its base, and flattened and rather thick towards its extremity; not prehensile.

Darker or lighter olive-grey above, either with some of the granules paler than the others or all uniform. Dark forms reticulated or spotted with blackish; light forms feebly spotted yellowish and blackish, some with rather large reddish spots, with black borders on either side of the mesial line, most distinctly marked on lumbar region and base of tail. Lips more or less barred or spotted with blackish brown and pale yellowish. Under surface either uniform yellowish greyish white with a slight median blackish band, or with a broad black longitudinal area involving the whole of the throat, the centre of the chest, and expanding on the belly, but not extending as far back as the groin. Under surface of the tail yellowish or greyish white, its sides spotted with brownish almost to the degree of being annulated, the posterior fourth deep black, most distinctly seen on the under surface.

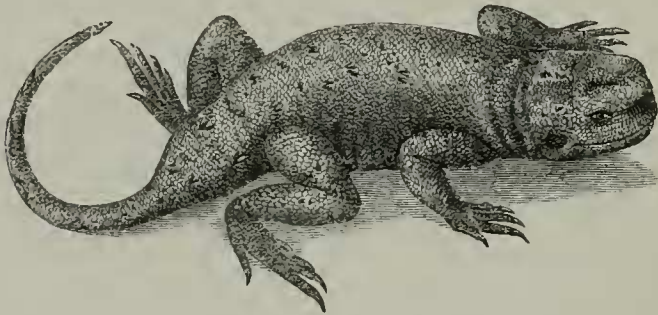
The peculiar coloration of this Lizard would lead me to believe that the black coloration of the belly is either sexual or seasonal.

Vent to snout 2"; vent to tip of tail 2" 6"; snout to occiput 6"; neck 2"; anterior extremity 1"; posterior limb 1" 7".

Hab. Yarkand.

I have received ten specimens of this species from the foregoing locality; and the number would indicate that it is a common species in the high region of Yarkand and Tibet. Mr. Theobald obtained this Lizard on the shores of the Chomorreri Lake. He describes the female as smaller than the male, and the species as monogamous in its habits, a pair occupying a burrow a few inches deep in the sandy soil, the opening of which is often concealed by a stone or tuft of grass.

Fig. 5.



Phrynocephalus persicus.

PHRYNOCEPHALUS PERSICUS, Filippi, Viaggio in Persia, 1862, pp. 343, 344. (Fig. 5.)

Nostril plates anterior, but separated by five rows of scales. Body covered with small imbricate smooth scales, their tips directed backwards and slightly upwards; sides granular or nearly so; interspersed oval, rather pointed tubercles, either single or in groups of three or five; when more than two or three, one of the tubercles is larger than the others; they are largest on the back and root of the tail, but are not continued on to the tail beyond its basal fourth. Tail with rather small smooth imbricate scales. Two rather flattened tubercular scales above the anterior angle of the eye. Upper eyelid with a fringe of twelve rather oblong scales; lower eyelid with ten larger pointed scales. A group of large tubercles above the region of the hidden ear, and continued forwards to below the middle of the eye. Twenty-four upper and twenty-eight lower labials. Nape with a short obscure crest of five small dark brown rounded spines. A fold across the neck to behind the angle of the jaw (more or less distinct on the nape), whence another is prolonged over the shoulder, marked by two groups of moderate-sized pointed tubercles. Scales on the upper surface of the hinder extremity, below the knee, slightly keeled. Scales of ventral aspect smooth. Rest of tail flattened and laterally much dilated, covered with spiny tubercular scales, rapidly contracting at the anterior

fourth and subconic. Scales of toes serrated; claws pale yellowish, long and pointed. Uniform olive-grey in spirit, almost pale yellow on the hands and feet. Sides of body and upper surface of extremities and of the tail with a few scattered minute blackish spots. A very obscure yellowish spot with a dark blue margin on each side of the neck. Sides of the tail with rather large brownish spots; under surface whitish. The chin and throat obscurely black-spotted. Labials with black spots.

Length from snout to vent 2"; vent to tip of tail 2" 1"; snout to occiput 5"; neck (above) 2"; anterior extremity 11"; posterior extremity 1" 6".

Hab. Awada, seven days north of Shiraz, Persia.

Prof. Filippi, who apparently describes the colours from a pale specimen, gives the ground-colour as an earthy, somewhat reddish grey; and the under surface he mentions as a dirty white with somewhat of a rose colour, the throat with vermicular lines forming an azure-grey marbling. He describes the side of the neck with a large indigo ash-coloured spot surrounded by a delicate rusty-coloured band, which the action of alcohol causes quickly to disappear. Some brown angulated spots on the sides of the back are also described by its discoverer, and two similar ones at the base of the tail; after these occur other spots more numerous and more rounded; a few other transverse brown spots on the legs.

Prof. Filippi says that the above markings are quite constant, and that the species is profusely spread over the desert countries of Sultanieh and Teheran.

It is closely allied to *P. helioscopus*, Kaup, from which it is distinguished by the shorter and more rounded head, the long fringed scales of its lower eyelid, the five rows of scales between the nasals, the greater size of the tubercles over the auricular region, their anterior prolongation, along with the more dilated base of its tail.

Fig. 6.



Phrynocephalus maculatus.

PHRYNOCEPHALUS MACULATUS, n. s. (Fig. 6.)

Ear hidden. Scales small, smooth, directed backwards and upwards. A few lines of keeled scales on the lower arms and legs;

scales on the first fourth of the tail smooth, arranged in transverse rows, more or less keeled on the remaining three fourths, forming three longitudinal ridges on the under surface. Ventrals of moderate size, smooth. Head covered on the mesial line with flat, non-tuberculated scales larger than the others; a large oval one occupying the centre of the occiput, with a tumid centre. Nasals separated by three scales one above the other, and a lateral scale on either side of the inferior one. Upper labials 31, increasing in size towards the angle of the mouth, where the largest occurs. The two corresponding to the rostral are more transversely elongated than the others, which are immediately behind, and which are square, rather rounded at their free extremities. Lower labials 26; a longitudinal line of five enlarged scales behind the mental on each side, separated from the labials by a line of smaller scales. Upper eyelid with a fringe of ten oblong scales; lower eyelid margined with ten long, pointed scales. Upper jaw with 10 teeth on either side, the anterior two separated by a considerable interval; 20 in the lower. The teeth gradually decrease in size from behind forwards, showing no indication of differentiation into incisors or canines. The nails are yellowish, long, and pointed. The tail is long and prehensile, exceeding the length of the body by half. Pale yellowish brown; the head pencilled with dark brown and pale yellow; three short, dark-brown longitudinal lines on the nape. Labials minutely punctulated with brownish. The back and sides and upper surface of the limbs with moderate-sized dark-brown spots, and small brown dots of the same colour, with numerous yellow spots either involving one or three scales. Four brown spots, in transverse series, between the thighs. The base of the tail with two transverse brown bands, with a very faint one between them; the rest of the tail with blackish spots along its sides, almost forming rings, but interrupted on the upper surface by small yellow spots nearly constituting a longitudinal line. The last fourth entirely black, separated by a yellow band from a black ring anteriorly. The under surface on the anterior half is rich orange-yellow. Ventral surface generally yellowish white.

Vent to snout 1" 8"; vent to tip of tail 2" 11"; snout to occiput 5"; neck 3"; anterior extremity 1" 1"; posterior limb 1" 9".

Hab. Awada, Shiraz, Persia.

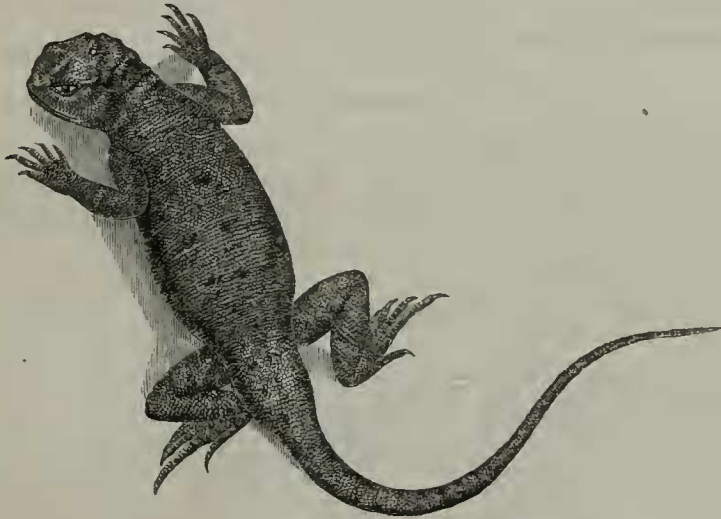
This species is distinguished from *P. caudivolvulus* by its smooth scales and peculiar coloration, and by the number of its teeth.

PHRYNOCEPHALUS FORSYTHII, n. s. (Fig. 7.)

Scales small, granular, ovally rhomboidal or quadrangular, smooth, arranged more or less in transverse rows, with a very few enlarged white scales occurring at intervals. No tubercles. Two enlarged scales on each side of the occiput, with a rather large tumid one in the mesial line before them, with those on the vertex only slightly larger than the ones external to them. Superciliary scales small. Scales of the lower eyelid forming a moderately pronounced fringe of ten scales with rounded points. Ear hidden. Nostrils anterior,

separated from each other by three to five longitudinal lines of scales, and widely so from the labial-like ventral by rows of granular-like scales. Twenty-six to twenty-eight upper labials, forming a toothed line. Twenty-six lower labials. A fold across the lower aspect of the neck, continued above the shoulder, and thrown into a number of folds at the side of the neck. Scales of limbs imbricate, almost

Fig. 7.

*Phrynocephalus forsythii.*

granular, partially keeled. Ventral scales of moderate size, some of them internal to the fore limb, showing a tendency to keeling. No femoral pores. Scales of dorsal surface of tail slightly larger than those on the body, and somewhat imbricate, and arranged transversely. Scales on under surface like those on abdomen, but increasing in size posteriorly, especially on the middle line. Base of tail dilated, with a group of spiny tubercles on the side of the most prominent portion. Tail long and tapering, but not prehensile. A tendency to the formation of a slight crest, by the skin falling into a longitudinal fold in the middle line of the back. Twelve teeth in the upper jaw on each side, with only one incisor, the tooth succeeding it being rather long and canine-like; twelve in the lower jaw, with the same characters and arrangement as in the upper. The last three teeth in both jaws are sensibly larger than the ones preceding them.

Snout to vent 1" 16''' ; vent to tip of tail 2" 6''' ; snout to occiput 5''' ; neck 2''' ; anterior limb 10''' ; posterior limb 1" 3'''.

Brownish yellow above, with five pairs of dark-brown spots on either side of the mesial line of the back, and a few more obscure ones on the base of the tail. Sides and upper surface of the body generally faintly spotted with brown and yellowish. Checks and labials punctulated with dark brown, varying in intensity in different

specimens. Sides and under surface of the tail with brown spots, the under surface of the posterior fourth blackish. Under surface of body yellowish, showing in some a faint blackish line down the centre of the chest and belly.

Hab. Yarkand. (Five specimens.)

OLIGODONTIDÆ.

SIMOTES RUSSELLII, Schleg.

Katmandoo, Nepaul. (Two specimens.)

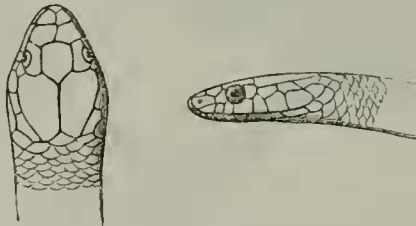
COLUBRIDÆ.

ABLABES FUSCUS, Blyth.

This has all the characters of this species, but its postfrontal is divided. The anterior pair of chin-shields are twice the size of the posterior pair.

Katmandoo, Nepaul.

Fig. 8.



Cyclophis persicus.

CYCLOPHIS PERSICUS, n. s. (Fig. 8.)

Body slightly compressed, tail moderately long. Head distinct from the neck, rather broad across the occipital region. Eye of moderate size. Rostral broader than high. Anterior frontals rounded in front, broader than long. Ventral rather broad, with its lateral margins nearly parallel, its posterior margins slightly rounded. Occipitals large, divergent posteriorly. Nasal much elongated, abruptly truncated in front, and pointed posteriorly, with the nostril in its middle. One anterior and one posterior ocular, the former extending on to the surface of the head. Seven upper labials, the third and fourth entering the orbit, the seventh and eighth the largest. Temporals $1 + 1 + 1 = 3$, the last the longest. Two pairs of chin-shields; the first pair the largest, oblong, rather broad, and in contact with four labials; the posterior pair less than half the length of the former. Fifteen rows of smooth rhomboidal scales, with an apical groove. Ventrals 144, slightly keeled, and extending up the sides. Anal bifid. Subcaudals 77.

Pale olive-brownish, buff above, greenish yellow below. A large black spot on the surface of the head encircling the greater part of the postfrontals and the other shields behind them as far as the

posterior half of the occipitals, giving off a fine line to the nostril and a black ring round the eye. A buff band across the last half of the occipitals, followed by a broad black collar, which passes down on the sides, but does not meet below. Length of body 10" 3"', tail 3" 2"'.
Hab. Bushire, Persia.

COMPOSOMA HODGSONI, Gthr.

Katmandoo, Nepaul. (Three specimens.)

PTYAS MUCOSUS, Linn.

Katmandoo, Nepaul, and Cashmere. (Eight specimens.)

ZAMENIS PERSICUS, Jan, Iconograph. Gén. des Ophid. 23^e livr. pl. 11. fig. 1.

Zamenis ladacensis, Anders. Journ. As. Soc. Beng. vol. xl. pp. 16, 17.

Since describing *L. ladacensis* I have received the part of Jan's 'Iconographie' containing the figure of *Z. persicus*, with which the former appears to be identical.

I have before me three specimens from Shiraz agreeing with *Z. persicus* in all their structural details, and only differing from Jan's figure in the absence of the black band between the eyes. The largest measures, body 30" 3"', tail 10" 7"'.
 ZAMENIS CAUDOLINEATUS, Gthr. *l. c.*

Periops caudolineatus, Gthr., Filippi, Viaggio in Persia, p. 355.

Zamenis caudolineatus, Gthr., Jan, Iconograph. Gén. des Ophid. 23^e livr. pl. iii.

I have received three specimens of a snake from Shiraz and Iswhan, Persia, which I identify with this species, which has been figured by Prof. Jan. The largest individual measures 43" 3"', of which the tail forms 10" 8"'. There are 21 rows of scales in all the specimens, each scale being terminated by two apical pores.

ZAMENIS CLIFFORDII, Schlegel.

Iswhan, fifteen days' journey north of Shiraz.

TROPIDONOTUS STOLATUS, Linn.

Katmandoo, Nepaul.

TROPIDONOTUS NATRIX, Linn.

Snout moderately pointed. Rostral twice as broad as high, hexagonal. Anterior frontals tapering, but transversely truncated anteriorly. Frontals bent well down on the side of the head, larger than the anterior frontals. Vertical moderately broad, with its lateral margin convergent, straight or more or less concave, most so in the young. Occipitals pointed posteriorly and divergent. Loreal quadrangular; one preocular, reaching to the upper surface of the head,

but not in contact with the vertical; three postoculars (one specimen out of six has four postoculars on one side); one large anterior temporal in contact with the two lower postoculars. A pair of posterior temporals touching the upper posterior angle of the last or seventh labial. Upper labials 7; sometimes 8, by the division of the second (this occurs in two specimens out of six). In the normal number, 7, the third and fourth enter the orbit, and in the latter case the fourth and fifth. The fifth labial is by far the largest. Nineteen rows of strongly keeled scales round the body. Scales elongate and leaf-like, and slightly notched at their free extremity. Ventrals vary from 177 to 180; subcaudals from 71 to 77.

Adults either uniform dark olive-black above, with indications of two longitudinal pale-coloured dorsal bands by some of the scales at regular intervals being more or less tinged with light brownish, or general colour dark olive-brown, with two longitudinal pale brown bands the breadth of two lines of scales. The bands and sides with rather obscure black spots, a scale's length, at regular intervals of from two to three rows, the ones on the sides alternating with those on the bands. Under surface yellowish anteriorly, with large bluish-black spots, which become larger and more numerous from before backwards, till at last the yellow is entirely replaced by the spots, the hinder part of the belly and the whole of the tail being deep black. In the young the confluence of the spots is not so perfect, and the ground-colour on the under part of the body is bluish grey. A transverse pale yellowish brown band from the angle of the mouth to the posterior extremities of the occipitals, very indistinct on the centre of the neck; a large black spot behind each, the small lateral spots being as it were a continuation of them. Upper labials yellowish, with black margins, those of the fourth, fifth, and sixth being very intense.

Largest specimen measures from snout to vent 38'' 3''', tail 10''; total 48'' 3'''.

Hab. Rehst, on the Caspian Sea.

The Caspian specimens belong to a melanoid form of this species, probably the var. *atra* of Nordmann.

TROPIDONOTUS HYDRUS, Pallas.

I have received five specimens of this snake—one from Rehst, on the Caspian Sea, another from Shiraz, Persia, and three young specimens from Teheran. The first is not adult. It is dark-olive brown, covered at regular distances with black spots tending to form transverse bands. The last seventh of the belly and the whole under-surface of the tail are quite black. Its prefrontals are pointed; it has three anterior oculars and four postoculars; eight upper labials, the fourth only entering the orbit; and nineteen rows of strongly keeled scales. The Shiraz specimen is a light yellowish olive, with black spots, those on the back being placed obliquely; those on the side alternating with the former, and only distinguished by the black skin and edges of the bases of the scales. Two or three of the scales between each of these dark areas are more or less margined with

bright yellow, almost forming a series of yellow transverse bands on the side and between each of those above; one or two of the scales are longitudinally margined with a like colour. The under surface of the posterior five sixths of the body is much finely spotted or punctulated with black, and the last sixth is almost wholly black, as is the under surface of the tail. This specimen has nineteen rows of scales, pointed prefrontals, only two anterior oculars and three postoculars; but it is evident, from the way in which the superciliary shield is prolonged down behind the eye, that it is confluent with the fourth postocular; eight upper labials, the fourth entering the orbit.

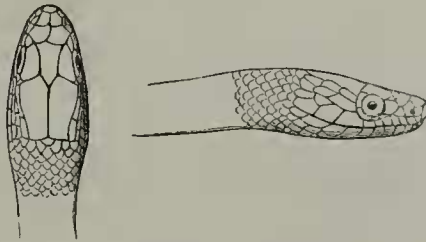
This species is recorded by Prof. Filippi in his work on Persia.

DENDROPHIIDÆ.

GONYOSOMA DORSALE, n. sp. (Fig. 9.)

Rostral rather prolonged on to the top of throat. Head elongately oval and rather pointed. Anterior frontal quadrangular, rounded in front, nearly as large as the posterior frontals. Loreal subquadrangular. Two anterior oculars, the upper one large, and reaching the vertical; the inferior ocular evidently a separated portion of the fourth and fifth labials. The fourth labial also divided below the posterior half of the loreal. Fifth and sixth labials entering the orbit, the sixth prolonged backwards before the seventh labial, which is the largest. Two posterior oculars; vertical rather elongate. Lateral margins rather deeply concave.

Fig. 9.



Gonyosoma dorsale.

Occipitals rather large, and nearly oblong, abruptly transversely truncated behind. Temporals $2+3+4=9$. A line of elongated temporals along the occipitals, and another similar line along the labials. The two anterior shields of each of these lines in contact, the remainder of the lines enclosing three other shorter temporals. Scales smooth, long, lanceolate, with an apical groove, in nineteen rows. Ventrals keeled, prolonged up the side, 227; caudals 107. Anal bifid.

Pale yellowish green above, with a bright pink longitudinal band from the posterior extremity of the vertical on to the base of the tail, where it disappears. Under surface bright yellow. Area round the

eye yellowish, with a small black speck below the eye; a faint blackish green one behind the eye, and another at the angle of the mouth, continued more or less into each other. Length of body 23"; tail 8" 2".

Hab. Shiraz, Persia.

CHERSYDRUS GRANULATUS, Schneider; *Gthr. l. c.* p. 336.

A specimen of this snake, 36 inches in length, from the sands of the Puri beach. The smaller scales that cover the sides have thin keels, each distinctly terminating in a minute recurved spine. In the Indian Museum, Calcutta, there is another specimen of this snake, from the mouth of the Hughli, so that its distribution is from the southern to the northern extremity of the western side of the Bay of Bengal; and it is probable that it will be found to have a corresponding distribution on the eastern side of the same sea.

HYDROPHIS CHLORIS, Daud.; *Gthr. l. c.* p. 70.

The specimen referred to this species measures $27\frac{5}{8}$ inches. The length of the long thin neck is more than one third of the total. There is one postocular; the third and fourth labials enter the orbit, the former being widely separated from the nasal by the preocular and rather large second labial. Two rather large, nearly equal-sized temporals. Two pairs of chin-shields, in contact with each other. Thirty-three rows of scales round the neck, very fully keeled, with a minute, nearly apical tubercle. Ventrals 495, distant on the neck, where they are about twice as large as the neighbouring scales; but they are relatively smaller on the thick part of the trunk. Four anal shields, the external scales being large. The dorsal half of the trunk is greenish olive, and the ventral half yellowish. Fifty-three blackish bands encircle the body, their dorsal halves being very black, broad above and narrowing to the middle line, and the ventral halves very faint on the thick portion of the body, but quite distinct along the ventral line, where they are connected with each other by an obscure black band. On the neck the transverse rings are very black, and so broad that the yellow interspaces are reduced to pairs of round spots, the head and under surface of the neck being quite black. Length $27\frac{5}{8}$ inches.

HYDROPHIS GRACILIS, Shaw.

I have received a specimen from Puri, with all the characters of this species as diagnosed by Günther. It has twenty-one rows of bitubercular scales round the neck; 232 ventrals, those on the neck nearly twice as large as the adjoining scales, while those on the compound limb are divided into two halves, placed opposite each other, each half bearing two tubercles as the ordinary scales.

Length $33\frac{2}{8}$ inches, of which the tail is $2\frac{7}{8}$.

HYDROPHIS LINDSAYI, Gray; *Gthr. l. c.* p. 371.

With the exception of having only twenty-six rows of scales round the neck, and 455 ventrals, very few of which are divided, a

Hydrophis which I have received from Puri differs in no other respect from *H. lindsayi*. It measures 27 inches in length.

HYDROPHIS STRICTICOLLIS, Gthr.

Head small, neck long and slender; scales not imbricate; thirty-seven round the neck, having either one or more tubercles in a straight line, tending to form an obscure keel; the central tubercle is the largest, the others very indistinct. On the posterior five sixths of the trunk there is one central tubercle to each scale. The ventrals are 385 in number, and on the anterior two thirds of the trunk are twice as broad as the adjoining scales. They show a distinct tendency to division, and are marked by a central groove, which nearly divides them; each half is marked by a central tubercle and a very obscure one behind it. There are six small anal scales, the middle one of the three of each side being the largest. Five upper labials, with a scale-like shield behind the last. The second upper labial is the largest, and touches the preocular. One postocular, with a single large temporal behind, which is as high as broad, rests on the scale-like posterior labial. Two pairs of chin-shields in contact with each other; fifty-one blackish rings round the trunk, broader than the groundwork between them, not confluent on the under surface, but running together on the back from behind the anterior third of the trunk. Tail with eleven vertical blackish bars, confluent on the under surface.

Length, snout to vent 36" 6''' ; vent to tip of tail 3".

Hab. Sandheads, mouth of the Hughli river; Bay of Bengal.

HYDROPHIS SPIRALIS, Shaw; Gthr. l. c. p. 366.

I have received what appear to be two young specimens of this species from Pooree, Cuttack, measuring respectively 22 and 16½ inches. The former has twenty-nine rows of scales round the neck. The scales are imbricate on the trunk, with a central tubercle. There are 332 ventrals, generally twice the size of the scales adjoining them; and almost all are undivided. The rostral, although it is well prolonged upwards, is broader than high. The third and fourth labials enter the orbit. There is only one postocular; and of the three temporals, the first is much the largest. Two pairs of chin-shields, the posterior being only slightly smaller than the anterior pair, and both are in contact. There is a black line from the rostral to the eye; but the rostral and the upper labial margin are yellowish white, and the whole under surface of the chin and throat are of the same colour. The upper surface of the head, from the frontals to behind the occipitals, is blackish, but more or less spotted with dirty yellowish, a spot occurring in the centre of the vertical and of each occipital. A faint, short, blackish line from the angle of the mouth either backwards or slightly upwards; fifty-nine black rings round the trunk, interrupted on the sides in the greater part of its extent, but perfect on the neck. These perfect or imperfect rings are broadest on the ventral surface, and on the neck they are connected with each other by a black line running along the ventrals.

Where the dorsal and ventral segments are not connected, the latter form rather broad, almost cone-shaped markings; the upper surface corresponding to the dorsal segments is dark olive, owing to the basal half of each yellow scale being black. The lower half of the length of the snake is rather bright yellow; after the twelfth ring from the head there is a round black spot on the dorsal surface between the rings, one or two blanks occurring only here and there. The latter half of the tail is black.

In the second specimen the shields of the head and scales are as those of the species; but I only count twenty-six rows of the latter round the neck, and 283 ventrals, which on the neck are rather more than twice as large as the neighbouring scales. The ventrals are undivided, and distinct throughout the whole length of the trunk. There is the black line from the rostral along the upper lip, the lower half of which is yellowish white, along with the chin, throat, and greater part of frontals; it is olive over the eye and temporals. From the posterior border of the frontals backwards to the hinder edge of the occiput, and including the two internal temporal shields, is black, with a faint yellowish spot in the centre of the vertical and each occipital. The trunk is encircled with forty perfect black rings, broadest on the back and ventral surface; on the latter region the rings are all connected with each other by a black longitudinal line twice the breadth of the ventral scales. One round, dorsal, black spot occurs between the second and third rings, but it is partially connected with the former. Between the sixth and seventh rings from the tail, another similar but separate spot occurs; and the coloration of the part of the body where it is placed represents exactly the coloration of the type of the species. The dorsal half of the body is coloured as in the former specimen; but its ventral half is not so light in colour—a circumstance which may be due to its greater youth.

HYDROPHIS CANTORIS, Gthr. *l. c.* p. 374.

I have received a young *Hydrophis* (also from Puri, and measuring $20\frac{2}{3}$ inches in length) that fully agrees with Günther's diagnosis of the above species. The elongated neck is nearly one half of the total length of the snake; the rostral shield is much longer than broad, and produced backwards, its hinder margin being in a line with the posterior upper angle of the first labial. The third labial is in contact with the nasal. The third labial enters the orbit, while the fourth is subocular; the postocular and two large temporals on each side of the elongated occipitals. Two pairs of chin-shields in contact with each other. Twenty-six rows of scales round the neck; 443 ventrals, those on the neck twice as large as the adjoining scales, and those on the compressed part of the body divided into two, or distinct, each with two central tubercles. Six small anal shields. Head and belly entirely black; the body surrounded with fifty-three black transverse bands, nearly all of which are confluent with the black of the under surface, and many of them with each other on the back, so that the greenish yellow of the ground-colour forms large

oval lateral spots. The first fourteen black bands of the neck are not confluent above, but are separated from each other by light greenish-yellow bands half the width. On the posterior half of the thick part of the body the black bands extend only halfway down the side. The tail has eight black vertical bands; and the tip is black. The coloration is intermediate in this specimen to what Günther describes it in the adult and young.

HYDROPHIS NIGRA, n. sp.

Neck but moderately slender, less than two thirds the length of the body. Head broader than neck, but long and oblong, with nearly straight sides, the preorbital breadth equalling the temporal diameter. Snout moderately long, broad and rounded, and rather spatulate. Rostral much broader than high (only feebly notched on its inferior surface), its posterior extremity being in a line with the rostro-labial suture. Nasals broader posteriorly than they are long. The third labial is not in contact with the nasal, and it enters the orbit, from which, however, it is almost excluded by the fourth labial. One postocular. The fifth and sixth labials are divided transversely. Two temporals, of which the anterior is the largest. Two pairs of chin-shields, the anterior in contact, the shields of the posterior pair separated by an azygos scale. Thirty-two rows of scales round the body, slightly imbricate, and elongately hexagonal, smooth. Ventrals 248; the first twenty-five or so sometimes as large as the adjoining scales, which are rather small. They diminish in size as they are traced backwards, but nearly all remain distinct and undivided. Three pairs of anal shields, of which the outer are the largest. Uniform intense black, without any true markings. Length 19 inches, of which the tail is 2 inches; length from vent to occiput $\frac{7}{1\frac{1}{2}}$; breadth at angle of mouth $\frac{4}{1\frac{1}{2}}$; breadth before eyes $\frac{4}{1\frac{1}{2}}$; breadth in a line with nasal suture $\frac{3}{1\frac{1}{2}}$; snout to eye $\frac{3}{1\frac{1}{2}}$; eye to angle of mouth $2\frac{1}{2}$ lines; angle of jaws to tip of snout 8 lines.

Hab. Puri, Cuttack coast, India.

HYDROPHIS CRASSICOLLIS, Anders. Journ. As. Soc. Bengal, 1871, p. 19.

I have received another specimen of this snake from Puri. It measures $57\frac{3}{8}$ inches, and is slightly lighter-coloured than my first specimen, and with the transverse bands much narrower. The upper surface of the head is coloured as in the type; but the chin and labials have a clear gamboge-yellow tint, and from the angle of the mouth there is a distinct similarly coloured yellow line passing backwards to the yellow longitudinal area of the side. The under-surface, except where the transverse black bands occur, is a clear, warm, yellowish white. I count 326 ventrals, and twenty-six rows of scales round the neck.

HYDROPHIS STEWARTII, n. sp.

The neck moderately long and slender, and the head rather short

and not much broader than the neck; the remainder of the body much compressed. Rostral considerably broader than high. The nasals as broad posteriorly as their common suture is long. The third and fourth labials enter the orbit, the former not being in contact with the nasal. Three temporals, the anterior being the largest. Two postoculars. Vertical much pointed behind. Occipitals long and narrow. Two almost quadrangular chin-shields in contact with each other. Thirty-three rows of scales round the neck. The scales hexagonal, not imbricate, with a feeble central tubercle. Ventrals 387, smooth, the first forty on the neck being about four times as large as the adjoining scales, those behind them becoming small and narrow as they are traced backwards, and hardly discernible on the last 6 inches of the trunk. Two pairs of small scale-like anals. Tail broad and markedly dilating from its root. Lips yellowish; upper surface of head, upper half of neck, and dorsal two fifths of compressed portion of body greenish olive; undersurface of head and all the remaining portion of the neck and body salmon-coloured. Fifty-seven very obscure darker olive, almost black rhomboidal bars on the dark dorsal area, and not extending on to the light-coloured sides. The tail pale greenish olive, mottled and tipped with black.

Length 38'' 3''', of which the tail constitutes 2'' 8'''; girth round neck 2 inches, behind head 2'' 5'''; greatest depth of body (5 inches before tail) 1'' 8'''; greatest thickness at last-mentioned point 6'''; thickness at upper margin of lower third in same locality 3'''; thickness at ventral margin 3'' 2'''; snout to occiput 11'''; breadth across gape 7'''.
Hab. Puri, Cuttack.

HYDROPHIS VIPERINA, Schmidt; Gthr. *l. c.* p. 378.

I have received a specimen of this snake, also from Puri, with thirty-two rows of scales round the neck and with 268 ventrals. The first thirty-five or forty ventrals are six times as large as the adjoining scales. Beyond these the ventrals decrease in size, and ultimately are not much larger than ordinary scales. The third labial does not reach the orbit, below which are the fourth and fifth lip-shields. The latter labial and the sixth and seventh are transversely divided, as is also the first large temporal on the right side. The nasals are broader posteriorly than they are long; and the dimensions of the vertical in these directions hold a similar relation to each other. Two posterior temporals. Scales keeled. The upper surface of the head and of the body generally is dark olive, without any trace of spots or markings of any kind; and the sides, upper lips, and under surface are yellowish. Length 29 $\frac{5}{8}$ inches, of which the tail is 3 inches; snout to occiput $\frac{6}{8}$ inch; breadth across gape $\frac{5}{8}$ inch; breadth in a line with posterior margin of nasals $\frac{4}{8}$ inch.

I have received another specimen, which appears to be the young of this species. It measures 13 $\frac{1}{2}$ inches, of which the tail forms

$1\frac{5}{8}$ inch. It has, however, thirty-two rows of scales round the neck, 240 ventrals, and three præanal shields on one side and two on the other. It has twenty-six black rhombic spots on the back, continued as vertical bars on to the sides, and confluent on the ventral shields, which are wholly black and six times as large as the neighbouring scales, which are smooth. It has on either side a minute detached præocular.

I have received from Muscat, Arabi'a, another specimen of this species, measuring 27 inches, of which the tail forms $2\frac{5}{8}$, with 238 ventrals and twenty-six rows of keeled scales round the neck.

Two other specimens from Puri have been sent to this Museum since the above was written; and I am inclined to regard both as forms of *H. viperina*. They are young, and measure respectively $13\frac{1}{8}$ inches, of which the tail forms $\frac{1}{2}$ inch, and $11\frac{5}{8}$, of which the tail is $1\frac{3}{8}$ inch. The first specimen has twenty-eight rows of scales round the neck and 267 ventral shields, while the second has twenty-nine cervical rows and 255 ventrals. Both have three pairs of anal shields; but as the condition of these shields in the above-mentioned young specimen would appear to indicate that these structures are variable in their number, too much importance cannot be attached to their numerical increase in the specimens under consideration as compared with the type. The third labial does not enter the orbit. On one side in one specimen there are two præoculars. The first temporal, on both sides in one specimen and on one side in another, is considerably higher than broad; while on the remaining side of the last and on both sides of the former a narrow temporal, longer than high, is separated, as it were, from the great anterior temporal.

These three young specimens were caught at one haul of a net, which would appear to indicate that the young of this species swim in shoals. When adult Hydrophides are caught in the net, there are, as a rule, always two or three of a species.

As one of these young snakes killed a chicken that it was made to bite, the species would appear to be endowed with an active poison.

HYDROPHIS JERDONI, Gray; Gthr. *l. c.* p. 362.

I have received a specimen from Puri measuring $38\frac{6}{8}$ inches in length, the tail measuring 4 inches.

ENHYDRINA VALACADYEN, Boie.

One specimen, from Puri, with a divided postocular on one side.

CROTALIDÆ.

TRIMERESURUS MONTICOLA, Gthr.

Katmandoo, Nepaul.

HALYS HIMALAYANUS, Gthr.

I have received a Pit-viper from Goduk which may be provisionally referred to the above species. It has, however, its anterior frontals in a straight transverse line, as in *H. pallasii*, and only the

second large temporal confluent with the sixth labial. In these characters it is intermediate between the two species. I have another specimen before me with the divergent anterior frontals of *H. himalayanus*; but it has only the sixth labial confluent with the middle temporal. In the first-mentioned specimen the anterior are nearly as large as the posterior frontals; but in the second they are considerably smaller than the hinder frontals, which are more or less pointed anteriorly. If this individual had had its small anterior frontals in a straight transverse line, with only one temporal entering the lip, it might with equal propriety have been referred to one or other of the two species. The bearing of these variations is apparent. The colouring is as described in the 'Reptiles of British India.'

BATRACHIA SALIENTA.

RANA ESCULENTA, Linn.

Vomerine teeth in a transverse row between the inner nostrils. These specimens have the membrane reaching to the extremity of the outer margin of the first, second, and third toes and to the end of the inner margin of the fifth. The third and fifth toes are nearly equal, the last being, if any thing, longer than the first-mentioned; but to all practical purposes they may be regarded as equal. The fourth is one third longer than the third and fifth. The internal tubercle is oblong and laterally compressed, and of moderate size; the external tubercle round and obscure. The lateral glandular fold is never pale-coloured; and the dorsal white line occurs in four out of twelve specimens. The dark band along the canthus rostralis and over the tympanum can be faintly detected in a few. There are no true dorsal glandular folds; but the back is covered with rounded, not prominent, glandular spots.

General colour dark olive, profusely or sparsely covered with black spots; the limbs either banded or black-spotted. Some specimens have the under surface of the hind limbs with one or two black spots; while others have a much larger number, and the spots of the side extending on to the belly, while the whole of the under surface is more or less very obscurely apparently reticulated with blackish, but so faintly that it is hardly noticeable.

These specimens are larger than the European examples of the species, seven out of the twelve exceeding 3 inches, the largest measuring 4" 1" from the snout to the vent, and the hind limb 6" 7".

Hab. Shiraz, Persia.

RANA CYANOPHYCTIS, Schneid.

Hab. Katmandoo, Nepaul.

RANA GRACILIS, Wieg.

Hab. Katmandoo, Nepaul.

BUFO VIRIDIS, Laur.

I have received seven specimens of this species from Shiraz,

Persia. The largest is a very characteristically and highly marked specimen, measuring 3" 11'" in length, and the hind limb 4" 3'". The coloration is exactly that of Laurenti's figure*. The others are young, and their colours are comparatively dull, the spots fewer and even proportionally smaller than in the adult.

The Museum collector also gathered, in the Himalayas, on his way to Ladak, seven specimens of a toad agreeing in every way with the young specimens from Shiraz. This species, however, had been previously obtained at Simla by Dr. Stoliczka.

HYLORANA ERYTHRÆA, Schl.; Gthr. *l. c.* p. 425.

I have received a young specimen of this frog from the Garo Hills, to the east of the Brahmaputra. The area between the two glandular lines is deep black; and there is a narrow black band along the dorsal margin of the uppermost glandular fold from above the eye to the side of the vent. The posterior surface of the fore and hind limbs marbled with deep brownish, a light line from the vent along the back of the thigh. In all its other characters it agrees with the characters given by Günther.

Length of body 1" $\frac{1}{2}$ ''; vent to heel 11 $\frac{1}{3}$ ''.

This species appears to extend as far west as Eastern Bengal, the fauna of which is decidedly much more Malayan than Indian properly so called.

POLYPEDATES ANNECTENS, Jerdon, Proc. As. Soc. Beng. 1870, p. 83, 84; Anders. Proc. Zool. Soc. 1871, p. 210.

I have received twelve specimens of this handsome species from the southern slopes of the Shillong plateau of the Khasia hills.

The largest specimen measures as follows:—

Snout to vent 1" 7''; vent to tip of fourth toe 2" 6 $\frac{1}{4}$ ''; vent to knee 8 $\frac{3}{4}$ ''; knee to heel 8 $\frac{1}{2}$ ''; heel to tip of fourth toe 1" 1''; length of fourth toe 8''. These measurements of the hind limb show the difference of only $\frac{1}{4}$ of a line between the dimensions of it and of the specimen formerly described by me.

RHACOPHORUS MACULATUS, Anders.

Rhacophorus reinwardtii, Jerdon, Proc. As. Soc. Beng. 1870, p. 84.

Rhacophorus maculatus, Anders. Journ. As. Soc. Bengal, vol. xl. p. 27.

This Museum has received seven other specimens of this frog from Shillong, on the Khasia hills. They in no way differ from the original specimens from which the species was described.

HYLA ARBOREA, Linn.

The specimens from the undermentioned locality have the dark lateral streak narrow and margined by a broader yellowish-white line. A dark transverse band over the vent, margined above with a pale band similar to the former. A pale dark streak from the knee

* Syn. Rept. p. 111, pl. i. fig. 1.

along the outer side of the leg to the fifth toe, margined posteriorly with pale yellowish. No spots. The membrane of the fingers very rudimentary; the toes two thirds webbed.

Hab. Rehst, Caspian Sea.

EPICRIUM GLUTINOSUM, Linn.

There is a median longitudinal fold from the symphysis of the lower jaw backwards as far as the length of the gape behind the angle of the mouth, abruptly defined posteriorly by a transverse fold separate and distinct from the body-folds but only reaching the sides. About halfway between it and the angle of the mouth there is another permanent fold that nearly encircles the body, but is interrupted behind the occiput. Anterior to this fold there is a short indistinct transverse fold on the throat, slightly posterior to the angle of the mouth.

The upper and under parts are not black, as described by Günther, but a rich slaty blue, the lateral line, however, being yellow. Whenever the specimens are removed from spirit they become dark brown, almost black.

I have received this species from Goalpara, Assam, and from Shillong, in the Khasia hills.

6. Catalogue of the Birds found in Ceylon; with some Remarks on their Habits and Local Distribution, and Descriptions of two New Species peculiar to the Island. By E. W. H. HOLDSWORTH, F.L.S., F.Z.S., &c.

[Received February 21, 1872.]

(Plates XVII.—XX.)

In the following Catalogue I have endeavoured to give a correct account of what is known at the present time of the birds resident in and visiting Ceylon. I have included no species about which there appears to be any doubt, except in a few cases; and in those cases I have mentioned the grounds on which their reported occurrence seems likely to be true.

The latest original list of Ceylon birds is that comprised in Mr. E. L. Layard's valuable and generally trustworthy "Notes on the Ornithology of Ceylon" published in the 'Annals and Magazine of Natural History' for 1853-54. Since that time there has been hardly any one in Ceylon who has given systematic attention to the avifauna of the island; and in the preparation of this Catalogue the considerable collection of birds made by myself and Mr. Layard's "Notes" have been the principal materials I have had at my command. I have been able, however, to make use of the extensive knowledge of eastern birds possessed by Lord Walden, the President of this Society, and his large collection of specimens, both of which